

WHAT IS CLAIMED IS:

1. A plunger for use in a syringe comprising a body portion having an inner wall, a discharge end and a transition region defined between the body portion and the discharge end, the plunger comprising:

a base comprising a side portion; and
a plunger surface disposed on at least a portion of the base, the plunger surface comprising a seal portion operably associated with the side portion of the base and in contact with the inner wall of the syringe;

wherein increases in pressure caused by movement of the plunger in the syringe compresses the seal portion between the inner wall of the syringe and the side portion of the base to create a dynamic seal between the seal portion and the inner wall of the syringe.

2. The plunger of Claim 1 wherein the side portion of the base is tapered and the diameter of the side portion decreases from a rearward axial position to a forward axial position thereof.

3. The plunger of Claim 1 wherein the seal portion of the plunger surface is tapered and the diameter of an inner wall of the seal portion decreases from a rearward axial position to a forward axial position thereof.

4. The plunger of Claim 1 wherein the side portion of the base and the seal portion of the plunger surface are tapered, the diameters of the side portion and an inner wall of the seal portion decreasing from rearward axial positions to forward axial positions thereof.

5. The plunger of Claim 4 wherein the angle of taper of the side portion and the seal portion are approximately equal.

6. The plunger of Claim 5 wherein the angle of taper is in the range of approximately 3° to approximately 15° .

7. The plunger of Claim 6 wherein the angle of taper is in the range of approximately 4° to approximately 10° .

8. The plunger of Claim 1 wherein the plunger surface further comprises a forward portion having a shape generally complementary to that of the transition region of the syringe.

9. The plunger of Claim 8 wherein the forward portion has a generally conical shape.

10. The plunger of Claim 8 wherein the forward portion has a generally hemispherical shape.

11. A syringe comprising:
- a body portion;
- a discharge end;
- a transition region defined between the body portion and the discharge end; and
- a plunger movably disposed within at least the body portion, the plunger comprising a base comprising a side portion and a plunger surface disposed on at least a portion of the base, the plunger surface comprising a seal portion operably associated with the side portion of the base and in contact with the inner wall of the syringe;
- wherein increases in pressure caused by movement of the plunger in the syringe compresses the seal portion between the inner wall of the syringe and the side portion of the base to create a dynamic seal between the seal portion and the inner wall of the syringe.
12. The syringe of Claim 11 wherein the side portion of the base is tapered and the diameter of the side portion decreases from a rearward axial position to a forward axial position thereof.
13. The syringe of Claim 11 wherein the seal portion of the plunger surface is tapered and the diameter of an inner wall of the seal portion decreases from a rearward axial position to a forward axial position thereof.

14. The syringe of Claim 11 wherein the side portion of the base and the seal portion of the plunger surface are tapered, the diameters of the side portion and an inner wall of the seal portion decreasing from rearward axial positions to forward axial positions thereof.

15. The syringe of Claim 14 wherein the angle of taper of the side portion and the seal portion are approximately equal.

16. The syringe of Claim 15 wherein the angle of taper is in the range of approximately 3° to approximately 15° .

17. The syringe of Claim 16 wherein the angle of taper is in the range of approximately 4° to approximately 10° .

18. The syringe of Claim 11 wherein the plunger surface further comprises a forward portion having a shape generally complementary to that of the transition region of the syringe.

19. The syringe of Claim 18 wherein the forward portion has a generally conical shape.

20. The syringe of Claim 18 wherein the forward portion has a generally hemispherical shape.

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